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Interactive comment on “A critical discussion of the electromagnetic radiation (EMR) method to determine stress orientations within the crust” by M. Krumbholz et al.

M. Krumbholz et al.

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Dear Mr. Everett, we are very thankful for your quick reply and positive review and we hope that we can answer your comments in an appropriate and sufficient way.

1: Your first point of criticism is that we do an inadequate job in criticizing the efficiency of the different filter mechanisms.

We agree in this point, we have improved the argumentation. We pointed out the insufficiency of the band pass filters (Fig. 3, 7 and 8), while we only mentioned the efficiency of the notch filter. Consequently, we will add a new figure plus an explanation in the text, showing that applying a notch filter, the signal of one VLF transmitter can

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be removed. According to that the notch filters (1) have a steeply enough frequency response, and are (2) broad enough to remove the signals even if they are not purely monochromatic and reveal spectral leakage, respectively, and (3) are on the other hand narrow enough to let signals at other frequencies pass.

Additionally, you suggest to remove the part discussing the effectiveness of the filters. We understand that from your point of view a discussion or an introduction of the different filters is not necessary. However, previous studies on EMR show that, the applicants' different expertise in electromagnetics, regarding e.g. filters and the receiving pattern of ferrite core antennas, caused wrong interpretation of the measured signals. Therefore, we believe a short introduction of the different filters is beneficial for readers without strong geophysical background and should stay part of the manuscript.

2: Criticism on the strength of our argumentation about signals received during the OFF times of DHO38, which is the strongest VLF transmitter in the study area.

We fully agree to this point of criticism. We will add a figure showing a measurement during the OFF time of DHO38. As expected, these received signals can be clearly related to another transmitter by its frequency in addition to its direction.

Furthermore, we will enlarge the data set in Figure 3 by data from other studies (Lauterbach, 2005 and Lichtenberger 2005/2006) and some new measurements showing another part of an arc around another VLF transmitter (HWU, France).

Interactive comment on Solid Earth Discuss., 4, 993, 2012.

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